



2027 Arnold O. Beckman Postdoctoral Fellowship in Chemical Sciences or Chemical Instrumentation

PROGRAM OVERVIEW

BACKGROUND

Following in the footsteps of our Founder, Dr. Arnold O. Beckman, himself a photochemist and instrument developer, the Arnold and Mabel Beckman Foundation recognizes the clear need for more postdoctoral training opportunities in the chemical sciences. The purpose of the Arnold O. Beckman Postdoctoral Fellows Award is to support postdoctoral fellows at nonprofit research institutions across the United States who are judged to have the highest potential for success in a career in chemistry and who will become the next generation of leaders and innovators in science, engineering, and technology.

The Fellowships has two tracks:

A. Postdoctoral Fellowship in Chemical Sciences allows chemists to pursue advanced research within fundamental chemistry, such as chemical physics, chemical engineering, or the chemistry of materials. The underlying proposed research and innovation must be chemistry-focused, although the project can have applications in other fields such as biology or physics.

B. Postdoctoral Fellowship in Chemical Instrumentation will allow researchers in chemistry to conceptualize, develop, and build instrumentation suitable to advanced research in chemistry, chemical physics, chemical engineering, and the chemistry of materials science. Instrumentation projects must be suitable to the two-year fellowship timeframe, be driven by a need in the listed chemical sciences, be innovative in method, speed or process, or represent a wholly new instrument for technological advancement in chemistry. Future potential use to the broader scientific community is a benefit.

It is the Foundation's intent that the Arnold O. Beckman Postdoctoral Fellowship will catalyze the fellow's transition to an outstanding, independent research career in academics or in an industry/governmental laboratory.

AWARD AMOUNT

The Fellowship award provides \$224,000 over 2 years for salary, fringe benefits, and research expenditures; instrumentation fellowships receive an additional one-time payment of up to \$200,000 for material/development costs. The Fellowship may be extended for an optional third year, with \$118,000 in funding for salary, fringe and research expenditures, dependent upon review of research progress and a renewal application, which is submitted during the second year of the Fellowship.

- Fringe Benefits (allowable costs): individual/family health insurance (any combination of medical, vision, and/or dental) whether purchased as a group or individual plan, disability insurance, retirement savings, and dependent or elder care.
- Research Expenditures: these may include, but are not limited to, lab supplies and equipment, travel to scientific meetings, journal subscriptions, books, computers, personnel and training courses.
- The Arnold and Mabel Beckman Foundation does not provide for overhead or indirect costs. **Institutions are to provide funding for overhead and administrative costs.**
- Award recipients or mentors may have existing funding in similar areas of research, however, **the research proposed for this fellowship must be unique and currently unfunded** within the mentor’s lab. During the term of the award, fellows may secure additional funding (e.g., NIH K99-R00), but must continue to work full-time on the proposed AOB Postdoctoral Fellowship research direction and may not secure an additional named fellowship.

Arnold O. Beckman Postdoctoral Fellows Award Annual Funding: 2027 Program

Award Year Funding	Stipend	Research Expenditures	Fringe	Total: Stipend, Research Expenditures, & Fringe	Chemical Instrumentation ONLY: Additional One-Time Research Expenditure Supply Funding
1	\$80,000	\$10,000	\$20,000	\$110,000	\$200,000
2	\$83,000	\$10,000	\$21,000	\$114,000	Not applicable
3	\$86,000	\$10,000	\$22,000	\$118,000	Not applicable

NAMING

Recipients of the award shall carry the title “Arnold O. Beckman Postdoctoral Fellowship in Chemical Sciences” or “Arnold O. Beckman Postdoctoral Fellowship in Chemical Instrumentation” alone and not in conjunction with any other name. Recipients may not hold any other named fellowship during the award period.

PROGRAM YEAR

The Arnold O. Beckman Postdoctoral Fellows are funded annually in June. Funding for the award term will be contingent upon the timely receipt of all required reports.

Each year of the 2027 Program will run from July 1 – June 30:

Year 1: July 1, 2027 – June 30, 2028

Year 2: July 1, 2028 – June 30, 2029

(Optional) Year 3: July 1, 2029 – June 30, 2030

LEVEL OF COMMITMENT

Postdoctoral Fellows are required to pursue their research and professional training during the award term on a full-time basis.

POSTDOCTORAL TRANSFER

The Arnold O. Beckman Postdoctoral Fellowship is transferable to other academic US research institutions that carry 501c3 or equivalent status when transfer is due to the Fellow's Mentor moving institutions. The Foundation will review requests in cases where the Fellow would like to change mentor, institution, or both, during the term of the Fellowship on a case-by-case basis.

TRANSITION TO ACADEMIC POSITION

Fellows who accept an academic faculty or full-time research position at an academic US research institution that carries 501c3 or equivalent status during the term of their award will be allowed to transition their remaining funding – from that program year – to their new institution. Candidates who already have funding for their independent careers tend to be reviewed more favorably by hiring committees, often increasing the candidates value on the job market.

EARLY TERMINATION OF AWARD

Fellows who accept a position in industry, a government laboratory, or other non-qualifying institution during their award term will forfeit the remainder of their funding. The Fellow's postdoctoral institution will be required to return the unexpended funds to the Foundation.

ELIGIBILITY CRITERIA FOR POSTDOCTORAL APPLICANTS: THESE CRITERIA MUST BE MET AT THE LETTER OF INTENT (LOI) DUE DATE

- U.S. Citizen or permanent resident of the United States or its possessions, or hold Deferred Action for Childhood Arrivals (DACA) recipient status; and
- Current graduate student anticipated to complete a PhD in the chemical sciences by May 1, 2027, or current postdoctoral researcher with a granted/conferred PhD in the chemical sciences with no more than 18 months of cumulative postdoctoral research experience; and
- Must pursue postdoctoral training within the core areas of fundamental chemistry, such as: chemical physics, chemical engineering, or the chemistry of materials. All applications should propose research and innovations that are chemistry-focused, although the project can have applications in other fields such as biology or physics; and
- Must have identified a mentor in the chemical sciences at a qualifying US nonprofit institution with appropriate laboratory facilities to support their postdoctoral research proposal; and

- Applicant must confirm with Sponsoring Mentor that they have committed to sponsoring only said applicant in this program cycle.
- Applicants cannot be an adjunct faculty during the fellowship.

ELIGIBILITY CRITERIA FOR SPONSORING MENTORS: THESE CRITERIA MUST BE MET AT THE LETTER OF INTENT (LOI) DUE DATE:

- PhD or MD/PhD; and
- Full-time tenured or tenure track faculty with at least a 25% appointment in a department affiliated with chemistry, chemical physics, chemical engineering, or the chemistry of materials science at their institution; and
 - If mentor does not possess a 25% appointment, as noted above, this eligibility requirement may be met by a co-mentor that carries a minimum 25% appt in chemistry.
 - If the co-mentor is at the same institution as the sponsoring mentor, then the Institutional Letter must specifically note that the mentor does not meet the appointment criteria, but the co-mentor does.
 - If the co-mentor is at a different institution, then the applicant needs an additional Institutional Letter (instructions on pg. 11-12) addressing that they meet point 3 of the appointment criteria from the Institutional Letter requirements.
- Active investigator in the applicant's area of research; and
- Mentors must confirm sponsorship of only one applicant per program year for consideration.

ELIGIBILITY CRITERIA FOR COLLEGES, UNIVERSITIES AND/OR INSTITUTIONS:

- The Arnold O. Beckman Postdoctoral Fellowship is open to applicants at all U.S. colleges, universities, or institutions which offer postdoctoral fellowships and hold a 501c3 designation or similarly qualifying IRS designation.
- Government Laboratories, such as NIH or federally funded national laboratories, are not considered eligible institutions.

ANY OF THE FOLLOWING CONDITIONS WILL RENDER AN APPLICANT INELIGIBLE.

- At the LOI due date, applicants with more than 18 months of cumulative postdoctoral experience in a research lab or who are more than 3 years from their PhD, are not eligible to apply.
 - Applicants who are more than 3 years from their PhD but have a documented Leave of Absence/Stop the Clock disruption from their academic careers due to military service, child-rearing, or other institutionally recognized leave of absence will be considered eligible.

- Applicants may not submit applications to both the “Chemical Sciences” and the “Chemical Instrumentation” fellowships in a single program year.
- Visa holders are not eligible to apply.
- Applicants may not have full-time faculty appointments.
- Sponsoring mentors may not support more than one applicant for program year 2027.
- If, by May 1, 2027, a potential awardee has not successfully completed his/her PhD, the award will be rescinded by the Foundation. The Foundation will accept unofficial transcripts or an official letter from the granting institution that the applicant has successfully defended and completed their PhD requirements by this deadline.

Using AI Tools:

The Arnold and Mabel Beckman Foundation supports the use of AI tools as supplementary resources. However, while their use in your application is at your discretion, we expect that you will use these AI tools in an ethical and responsible manner. As the applicant, you are expected to comply with best practices in research and publishing ethics, take full responsibility for any errors made by an AI tool, and to cooperate by responding to any questions that may arise relating to the accuracy or integrity of any part of your work, including data analyses and representation. *If AI tools are used in producing any part of your application or in assisting with the writing process, a brief statement describing this use must be included with the references.*

APPLICATION PROCESS

The Foundation uses a 2-step application process, beginning with a Letter of Intent (LOI) that is focused on the research proposal and references. If invited, applicants will be asked to submit a Full Application.

In an effort to avoid/reduce bias in the review process, the Foundation has asked applicants to blind their LOI by omitting any identifying information regarding themselves or their mentors/co-mentors' identities or institution affiliations from both the LOI Proposal and References. Additionally, the Foundation will keep all information submitted in the online portal pertaining to the applicant's name, gender, ethnicity, citizenship status, and institutional information private and inaccessible from all reviewers during the LOI review; only the Proposal and Reference sections will be visible to reviewers at this stage. The other required documents and information will be used internally by the Foundation to verify program eligibility.

If the Foundation or the reviewers determine that you have included information, intentionally or not, that identifies yourself, your mentor/co-mentor, or the institutional affiliation of either, your application will be determined ineligible. This determination will be made at the sole discretion of the Foundation and review committee.

If you are invited to submit a Full Application, details will be provided at that time regarding how to submit the required additional information and documentation.

Applicants may only submit one Letter of Intent (LOI) per year, and the Sponsoring Mentor may only support one applicant for the 2027 program year. Applicants must choose one track:

- A. Chemical Sciences Fellowship, or
- B. Chemical Instrumentation Fellowship

No changes to the chosen track can be made after submission of an LOI application.

GENERAL INFORMATION

Applicant:

- Applicant may apply to either the Chemical Sciences program or the Chemical Instrumentation Program but must choose only one.
- The applicant must have identified a sponsoring mentor who will supervise the fellow during the proposed mentored training and research experience.
- Applicant must verify that sponsoring mentor has committed to sponsoring only said applicant.

Sponsoring Mentor:

- **The sponsoring mentor may only support one applicant; applicants should confirm with their mentor prior to submittal.**
- The sponsoring mentor must have at least a 25% appointment within a chemistry, chemical engineering, or materials chemistry department.
 - If the sponsoring mentor does not have a chemistry appointment, this eligibility requirement may be met with a co-mentor that carries a minimum 25% appointment in chemistry.
- The proposed research direction may have existing support within the mentor's laboratory; however, the specific research aims and tasks proposed for this fellowship must be clearly delineated from existing support.

GENERAL INSTRUCTIONS FOR UPLOADS:

PDF format

Margins: 3/4 inch

Font size: 11 pt or larger

Font type: no requirement

File Naming: For the appropriate document, identify simply as, Proposal, References, Institution Letter, or Citizenship; **do not include any identifying information**

Page Limits are as follows:

Proposal (Chemical Sciences): 3 pages with figures and tables

Proposal (Chemical Instrumentation): 4 pages with figures and tables

References: 3 pages

Institutional Letter: 2 pages; on institutional letterhead

Citizenship: 1 page per document

To assist in the blind review process, please follow the instructions below for your proposal and references:

- DO NOT include your name, gender, gender identifying pronouns, or institutional information in the proposal.
- If you include references to your own publications in the proposal, do not use any formatting markings (asterisk, bolding, italics, etc.) to identify yourself within the list of authors.
- Suggested wording: “The applicant proposes”, or “I propose”
- Do not use phrasing or sentences such as: “In my mentor’s lab we developed “special technique” that is now widely used” or “in my mentor’s lab” and then cite the reference; it is a small community, and reviewers will be able to identify the technique, lab, mentor and/or institution.

LETTER OF INTENT (LOI):

1. Applicant, Institution, Mentor information online form.

Applicant must provide general information (name, address, contact information) for themselves, current and proposed institution, and sponsoring mentor and co-mentor, if applicable. The Foundation will use this identifying information to confirm eligibility; it will not be provided to the reviewers during the LOI stage.

2. Applicant’s Proposal - Choose either: A. Chemical Sciences Fellowship or B. Chemical Instrumentation Fellowship

A. Chemical Sciences Fellowship - Applicant’s Independent Research Proposal

The research proposal should address a specific and substantive research question, should clearly articulate the significance of the research, and must demonstrate the applicant’s future potential for a career in the chemical sciences and as a leading innovator in science and technology. Extensive discussion is expected to take place between the applicant and the proposed mentor in order to identify an appropriate independent research project – one that is relevant, instructive, and suited to a two-year fellowship period. However, the proposed research should be clearly driven by the applicant.

Applicants should provide a narrative describing a well-defined chemically focused research project that is suited to their stage of career development.

The Applicant's research proposal must be organized as follows:

- A) Specific Aims: Identify the aims of the proposed research;
- B) Background: Describe the prior work that has led to the proposed research, providing a convincing argument for how the applicant developed the project idea and stating that the project is not already funded as part of the mentor's ongoing projects;
- C) Significance of the research: Provide a discussion of the importance of your proposed research, including what would change if you were successful and why now is the right time to conduct this work (i.e., what major findings of yours or others have set the stage for what you are proposing)? Be careful to present any findings in a way that does not reveal your identity.
- D) Proposed strategy and approach (research design and methods): Describe in detail the hypothesis, methodology, plans for achieving the specific aims, the rationale for the proposed approach, potential pitfalls and expected/alternative approaches to achieve the proposed studies.

B. Chemical Instrumentation Fellowship – Applicant's Independent Research Proposal

The research proposal should address a specific and substantive instrumentation need, should clearly articulate the significance of the measurements or research that will be enabled by the new instrumentation, and must demonstrate the applicant's future potential for a career in the chemical sciences and as a leading innovator in science and technology. Extensive discussion is expected to take place between the applicant and the proposed mentor in order to identify an appropriate independent research project – one that is relevant, instructive, and suited to a two-year fellowship period. However, the proposed research should be clearly driven by the applicant.

The Applicant's research proposal must be organized as follows:

- A) Specific Aims: Identify the aims for the instrument development as well as what studies will be conducted by the applicant to test, verify, and commission operation of the new instrument;
- B) Background: Applicant should describe the prior work that has led to the proposed development and assembly of the instrument, making a convincing argument for how the applicant developed the instrumentation project idea,

how the instrument will fill a substantive need, and show that the project is not already funded as part of the mentor's ongoing projects;

- C) Proposed strategy and approach (research design and methods): Describe in detail the technical approach, methodology, plans for achieving the specific aims, the rationale for the proposed approach, potential pitfalls and expected/alternative approaches to the proposed studies;
- D) Instrumentation Dissemination and Sustainment plan: Describe the following for the new instrumentation:
- How will the new instrumentation technology and methodology be disseminated to the larger scientific community, including the instrument design, operation, data format/provenance, and potential data analysis techniques; and
 - The disposition of the first instrument prototype at the conclusion of the postdoctoral fellowship; and
 - Anticipated new intellectual property and how that will be pursued and shared between the fellow, mentor and institution; and
 - Size of the potential market or impact of the new instrument, both within chemical sciences and the broader scientific community, if applicable.

3. References: include the full author lists and titles for all references

If you include references to your own publications in the proposal, do not use any formatting markings (asterisk, bolding, italics, etc.) to identify yourself within the list of authors.

4. Institution's Letter of Support

The institution must commit to supporting the Fellow and Sponsoring Mentor throughout the award period through the provision of, but not limited to, the following: lab facilities, equipment, consumables, clerical/office staff support, computing resources, and access to facilities necessary to their research.

- If the sponsoring mentor does not have a chemistry appointment, this eligibility requirement may be met by a co-mentor that carries a minimum 25% appointment in chemistry.
- If the co-mentor is at same institution as the sponsoring mentor, then the institutional letter must specifically note that the mentor does not meet appointment criteria, but the co-mentor does.
- If the co-mentor is at a different institution, then the applicant should supply:

- 1 letter from the sponsoring mentor's institution addressing points 1, 2, 4 in the instructions below; and
- 1 letter from the co-mentor's institution addressing point 3 of the instructions below.

The highest signing authority of the department, unit, or school that will be providing support to the Fellow must supply this letter. **The first four sentences must respond to the prompts shown below and must be in this order; additional information may be included after these responses:**

1. Institution must state that they will provide for overhead and administrative costs; the Foundation does not provide for overhead or indirect costs.
2. Institution must clearly state its support and provision of Fringe benefits for the fellow. The fellowship provides some funds for Fringe benefits (medical/dental/health benefits). However, if the Fringe amount provided by the Foundation does not cover the full annual cost, the institution must state how it will cover the remainder of the costs in order to make the Fellow "whole" or "equivalent/equitable" to an Institutionally Supported Fellow (often designated as an Employee of the Institution).
3. Institution must state that the Sponsoring Mentor is a full-time tenured or tenure track professor with at least a 25% appointment in a chemistry, chemical physics, chemical engineering, or materials science department at said institution. If this requirement is being met by a co-mentor, the letter should state this explicitly.
4. Institution must confirm that Sponsoring mentor has agreed to support only said applicant for Program Year 2027.

5. Applicant's Verification of US Citizenship or Permanent Residency.

Provide one of the following valid documents:

1. U.S Passport; or
2. Certificate of Naturalization; or
3. Certificate of U.S. Citizenship; or
4. U.S. Driver's License **AND** U.S. Birth Certificate (certified copy/not the one the hospital sends you home with); or
5. Green Card (Front and Back); or
6. Permanent Resident Card (Front and Back); or
7. DACA Employment Authorization Document; or
8. Enhanced Driver's License (acts as proof of U.S. citizenship; unlike a standard or REAL ID license, an EDL is a secure, WHTI-compliant document that verifies both identity and citizenship.)